

CORN (FIELD) – FOLIAR DISEASES

Travis Faske and Terry Spurlock

NOTE: Fungicides should not be applied prior to 100% tassel and should not be applied later than 14 days after brown silk. We do not recommend the use of fungicides on field corn in Arkansas except under extraordinary circumstances. Preventative use will likely not result in an economic return on current hybrids grown in the state in most years. In rare cases where they might be needed – such as years favorable to southern rust, late-planted corn, or corn following corn in the same field – the following foliar fungicides are registered for use in Arkansas.

| Disease | Fungicide | Active Ingredient | FRAC Code | Rate/Acre | Days to Harvest | Comments |
|---|--|--------------------------------|-----------|------------------|-----------------|--|
| Southern rust and northern corn leaf blight | Topguard 1.04 SC | flutriafol | 3 | 7 - 14 fl oz | 7 | |
| | Tilt, Propimax 3.6 EC | propiconazole | 3 | 4 fl oz | 30 | |
| | Proline 480 SC | prothioconazole | 3 | 5.7 fl oz | 14 | |
| | tebuconazole (multiple generics 3.6 F) | tebuconazole | 3 | 4 - 6 fl oz | 36 | |
| | Domark 230 ME | tetraconazole | 3 | 4 - 6 fl oz | R3 | |
| | Andiamo 230 ME | tetraconazole | 3 | 4 - 6 fl oz | R3 | |
| | Quadris 2.08 SC (multiple generics) | azoxystrobin | 11 | 6 - 15.5 fl oz | 7 | |
| | Evito 480 SC, Aftershock 480 SC | fluoxastrobin | 11 | 2 - 5.7 fl oz | 30 | |
| | Approach 2.08 SC | picoxystrobin | 11 | 3 - 12 fl oz | 7 | |
| | Headline 2.09 SC | pyraclostrobin | 11 | 6 - 12 fl oz | 7 | Rust and gray leaf spot: 6 - 9 fl oz; corn leaf blights: 9 - 12 fl oz. |
| | Prosaro 421 SC | prothioconazole + tebuconazole | 3 + 3 | 6.5 fl oz | 36 | |
| | Luccento 4.17 SC | flutriafol + bixafen | 3 + 7 | 3 - 5.5 fl oz | 30 | In university trials 5 oz/A was the most effective rate. |
| | Topguard EQ 4.29 SC | azoxystrobin + flutriafol | 11 + 3 | 5 - 7 fl oz | 7 | |
| | Quilt Xcel 2.2 SE, Cover XL 2.2 SE | azoxystrobin + propiconazole | 11 + 3 | 10.5 - 14 fl oz | 30 | |
| | Helmstar Plus 3.0 SC | azoxystrobin + tebuconazole | 11 + 3 | 7.2 - 10.8 fl oz | 36 | |
| | Affiance 1.5 SC | azoxystrobin + tetraconazole | 11 + 3 | 10 - 17 fl oz | 7 | |
| | Brixen 1.85 SC | azoxystrobin + tetraconazole | 11 + 3 | 13 - 19 fl oz | R3 | |
| | Fortix 3.22 SC, Preemptor 3.22 SC | fluoxastrobin + flutriafol | 11 + 3 | 4 - 6 fl oz | 30 | |
| | Zolera FX 3.34 SC | fluoxastrobin + tetraconazole | 11 + 3 | 4.4 - 6.8 fl oz | 30 | |
| | Approach Prima 2.34 SC | picoxystrobin + cyproconazole | 11 + 3 | 3.4 - 6.8 fl oz | 21 | In university trials 6.8 oz/A was the most effective rate. |

(continued)

CORN (FIELD) – FOLIAR DISEASES – continued

| Disease | Fungicide | Active Ingredient | FRAC Code | Rate/Acre | Days to Harvest | Comments |
|--|----------------------|---|------------|-----------------|-----------------|--|
| Southern rust (<i>cont.</i>) and northern corn leaf blight | Veltyrna 3.34 SC | pyraclostrobin + mefentrifluconazole | 11 + 3 | 7 - 10 fl oz | 21 | |
| | Dexter Max 0.75 DC | mancozeb + azoxystrobin | 11 + 3 | 1.6 lbs | 40 | |
| | Stratego 2.08 SC | trifloxystrobin + propiconazole | 11 + 3 | 12 fl oz | 30 | |
| | Stratego YLD 4.18 SC | trifloxystrobin + prothioconazole | 11 + 3 | 4 - 5 fl oz | 14 | |
| | Headline AMP 1.68 SC | pyraclostrobin + metconazole | 11 + 3 | 10 - 14.4 fl oz | 20 | |
| | Priaxor 4.17 SC | pyraclostrobin + fluxapyroxad | 11 + 7 | 4 - 8 fl oz | 21 | Rusts: 6 - 8 fl oz; corn leaf blights and gray leaf spot: 4 fl oz. |
| | Revytek 3.33 SC | fluxapyroxad + pyraclostrobin + mefentrifluconazole | 7 + 11 + 3 | 8 - 15 fl oz | 21 | |
| | Trivapro 2.21 SE | benzovindiflupyr + azoxystrobin + propiconazole | 7 + 11 + 3 | 13.7 fl oz | 30 | |

Management of Corn Diseases – Fungicide Efficacy for Control of Corn Diseases (*January 2020*)

The Corn Disease Working Group (CDWG) has developed the following information. Efficacy ratings for each fungicide listed in the table were determined by field testing the materials over multiple years and locations by members of the committee. Efficacy ratings are based upon level of disease control achieved by product and are not necessarily reflective of yield increases obtained from product application. Efficacy depends upon proper application timing, rate and application method to achieve optimum effectiveness of the fungicide as determined by labeled instructions and overall level of disease in the field at the time of application. Differences in efficacy among fungicide products were determined by direct comparisons among products in field tests and are based on a single application of the labeled rate as listed in the table. **The table includes systemic fungicides available that have been tested over multiple years and locations. This table is not intended to be a list of all labeled products¹.** Efficacy categories: NR = Not Recommended; P = Poor; F = Fair; G = Good; VG = Very Good; E = Excellent; NL = Not Labeled for use against this disease; U = Unknown efficacy or insufficient data to rank product efficacy.

NOTE: This guideline was a composite of several field trials from multiple states across the U.S. corn belt and may not always reflect fungicide efficacy observed in Arkansas.

| Fungicide(s) | | | | Anthracnose Leaf Blight | Eyespot | Gray Leaf Spot | Northern Leaf Blight | Southern Rust ^A | Harvest Restriction ² |
|---------------------------------|-----------------------|--------------------------------------|----------------|-------------------------|---------|----------------|----------------------|----------------------------|----------------------------------|
| Class | Active Ingredient (%) | Product/Trade Name | Rate/A (fl oz) | | | | | | |
| QoI Strobilurins Group 11 | Azoxystrobin 22.9% | Quadris 2.08 SC Multiple Generics | 6 - 15.5 | VG | VG | E | G | VG | 7 days |
| | Pyraclostrobin 23.6% | Headline 2.09 EC/SC | 6 - 12 | VG | E | E | VG | VG | 7 days |
| | Picoxystrobin | Approach 2.08 SC | 3 - 12 | VG | VG | F-VG | VG | G | 7 days |
| DMI Triazoles Group 3 | Propiconazole 41.8% | Tilt 3.6 EC Multiple Generics | 2 - 4 | NL | E | G | G | F | 30 days |
| | Prothioconazole 41.0% | Proline 480 SC | 5.7 | U | E | U | VG | G | 14 days |
| | Tebuconazole 38.7% | Folicur 3.6 F Multiple Generics | 4 - 6 | NL | NL | U | VG | F | 36 days |
| | Tetraconazole 20.5% | Domark 230 ME Multiple Generics | 4 - 6 | U | U | E | VG | G | R3 (milk) |

Management of Corn Diseases – Fungicide Efficacy for Control of Corn Diseases (January 2020) (continued)

| Fungicide(s) | | | | Anthracnose Leaf Blight | Eyespot | Gray Leaf Spot | Northern Leaf Blight | Southern Rust ^A | Harvest Restriction ² |
|--|---|---|----------------|----------------------------|---------|-------------------|-------------------------|-------------------------------|-------------------------------------|
| Class | Active Ingredient (%) | Product/Trade Name | Rate/A (fl oz) | | | | | | |
| Mixed Modes of Action Group 11 + 3 or 7 | Azoxystrobin 13.5% Propiconazole 11.7% | Quilt Xcel 2.2 SE Aframe Plus 2.2 SE | 10.5 - 14 | VG | VG-E | E | VG | VG | 30 days |
| | Benzovindiflupyr 10.27% Azoxystrobin 13.5% Propiconazole 11.7% | Trivapro 2.21 SE | 13.7 | U | U | E | VG | E | 30 days |
| | Cyproconazole 7.17% Picoxystrobin 17.94% | Approach Prima 2.34 SC | 3.4 - 6.8 | U | U | E | VG | G | 30 days |
| | Flutriafol 19.3% Fluoxastrobin 14.84% | Fortix 3.22 SC Preemptor 3.22 SC | 4 - 6 | U | U | E | VG | G-VG | R4 (dough) |
| | Flutriafol 26.47% Bixafen 15.55% | Lucento 4.17 SC | 3 - 5.5 | U | U | VG-E | VG | G | R4 |
| | Prothioconazole 16.0% Trifloxystrobin 13.7% | Delaro 325 SC | 8 - 12 | VG | U | E | VG | G-VG | 14 days |
| | Pydiflumetofen 7.0% Azoxystrobin 9.3% Propiconazole 11.6% | Miravis Neo 2.5 SE | 13.7 | U | U | E | VG-E | G | 30 days |
| | Pyraclostrobin 13.6% Metconazole 5.1% | Headline AMP 1.68 SC | 10 - 14.4 | U | E | E | VG | G | 20 days |
| | Pyraclostrobin 28.58% Fluxapyroxad 14.33% | Priaxor 4.17 SC | 4 - 8 | U | U | E | VG-E | G | 21 days |
| | Trifloxystrobin 32.3% Prothioconazole 10.8% | Stratego YLD 4.18 SC | 4 - 5 | VG | E | E | VG | G | 14 days |
| | Tetraconazole 7.48% Azoxystrobin 9.35% | Affiance 1.5 SC | 10 - 14 | U | U | U | G-VG | G | 7 days |
| | Flutriafol 18.63% Azoxystrobin 25.30% | TopGuard EQ | 5 - 7 | U | U | VG | G | VG | 45 days |
| | Mefentrifluconazole 17.56% Pyraclostrobin 17.56% | Veltyrna 3.34 SC | 7 - 10 | U | U | VG-E | VG-E | G-VG | 21 days |
| | Mefentrifluconazole 11.61% Pyraclostrobin 15.49% Fluxapyroxad 7.74% | Revytek 3.33 SC | 8 - 15 | U | U | VG-E | VG-E | G-VG | 21 days |

¹ Fungicide application timing is extremely important and needs to be made near the onset of the tar spot symptoms. Efficacy ratings based on limited site locations from 2018 and 2019.

² Harvest restrictions are listed for field corn harvested for grain. Restrictions may vary for other types of corn (sweet, seed or popcorn, etc.), and corn for other uses such as forage or fodder.

³ A 2ee label is available for several fungicides for control of tar spot, however efficacy data are limited. Check 2ee labels carefully, as not all products have 2ee labels in all states.

This information is provided only as a guide. It is the applicator's legal responsibility to read and follow all current label directions. Reference in this publication to any specific commercial product is for general information only, and does not constitute an endorsement or recommendation by the CDWG. Individuals using such products assume responsibility for their use in accordance with current directions of the manufacturer. Members or participants in the CDWG assume no liability resulting from the use of these products.

CORN (FIELD) – AFLATOXIN

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| Contamination | Product | Rate/A | Comment |
|---------------|--|------------|---|
| Aflatoxin | Afla-Guard (atoxigenic strain of <i>Aspergillus flavus</i>) | 10 - 20 lb | To suppress aflatoxin contamination in low to moderate risk fields, apply at V10 to VT. |

CORN (FIELD) – NEMATODES

Travis Faske

| Nematode ¹ | Nematicide ² | Formulation | Active Ingredient | FRAC Code | Rate/Acre | Comments |
|--|--|----------------|-------------------------------|-----------|-------------|--|
| Root-knot, Lesion and Stubby-root Nematodes (+ early season insects) | Counter 20 G Lock'n Load | 20% granules | terbufos | --- | 6.5 lb | Apply in seed furrow at planting according to the label. Do not exceed 6.5 lb/acre total. |
| | Telone II 9.85 L ³ | Liquid | 1,3-dichloropropene | --- | 3 - 6 gal | Inject 12 inches below planting depth and seal immediately with appropriate bedding equipment. Wait 7 - 14 days before planting. |
| | Avicta Complete Corn 500/1250 with Vibrance ⁴ | Seed treatment | abamectin + | --- | See label. | Available through commercial seed companies and dealer distributors. |
| | | | thiamethoxam + | --- | | |
| | | | azoxystrobin + | 11 | | |
| | | | mefenoxam + | 4 | | |
| | Poncho/Votivo 5.01 FS ⁴ | Seed treatment | fludioxonil + | 12 | | |
| | | | sedaxane | 7 | | |
| | | | clothianidin + | --- | | |
| | | | <i>Bacillus firmus</i> I-1582 | --- | | |
| | BioST Nematicide 100 ⁴ | Seed treatment | <i>Burkholderia</i> spp A396 | --- | 7 fl oz/cwt | |

¹ Certain other nematodes are considered economic problems on corn in other parts of the U.S. These include the root-knot lesion, stubby-root, ring, dagger, spiral, stunt and sting nematodes. There is no data from Arkansas to indicate the severity of these nematodes under our conditions, but at high populations a nematicide might be justified. Fields with long-term corn history that have lower than expected yields or yields that decline over time should be tested for nematodes by submitting a soil sample to the Nematode Diagnostic Laboratory located at the Southwest Research and Extension Center near Hope. Contact your local county Extension agent for guidelines on when and how to collect the sample. **A small fee is charged for this service.**

² **RESTRICTED USE PESTICIDES** – These are dangerous pesticides – use caution in handling and read and follow current label directions. There has been no recent research in Arkansas that demonstrates any economic return for the use of these products on corn. These products **can cause crop injury if certain herbicides are applied afterwards – carefully read pesticide interaction information on the label before applying these or any pesticides.**

³ Use where nematode pressure is severe.

⁴ Use where nematode pressure is low to moderate.